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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,292	10/04/2001	Jen-Houne Hannsen Su	82,593	3357

7590 02/18/2003

Naval Surface Warfare Center
Carderock Division
Office of Counsel, Code 004
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EXAMINER

BURCH, MELODY M

ART UNIT PAPER NUMBER

3683

DATE MAILED: 02/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/972,292

Applicant(s)

SU ET AL.

Examiner

Melody M. Burch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract exceeds 150 words. Correction is required. See MPEP § 608.01(b).

Claim Objections

2. The claims are objected to because of the following informalities including but not limited to:

- First recited in lines 1-2 of claim 2 the limitation of "at least one said streamlined resilient element" should be changed. Examiner suggests such language as --at least one of said at least one streamlined resilient element-- to be consistent with the original recitation of "at least one streamlined resilient element" in line 4 of claim 1. A similar issue occurs with the "each said truncation surface" first claimed in line 3 of claim 2 which should be changed to such language as --each said at least one truncation surface--. Similar changes should be made throughout the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-7, 14-21, and 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are replete with 112 issues including but not limited to:

Re: claim 1. Claim 1 recites the limitation "the same frequency bandwidth" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim. Similar issue occurs in claim 1 line 15. Also the phrase "the same frequency bandwidth over a broad loading range" raises the questions "the same frequency bandwidth as what?" and the "broad loading range of what?".

Re: claim 1. Claim 1 recites the limitation "the corresponding region in line 20. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 5. The phrase "if said streamlined resilient element at least substantially describes a cylinder shape" (first claimed in lines 5-6 of claim 5 but found in subsequent claims as well) is indefinite. It is unclear to the Examiner whether or not Applicant intends to claim the resilient element being a cylinder shape.

Re: claim 14. The phrase "PID-type" in line 20 is indefinite as it fails to clearly define the metes and bounds of the claim.

Re: claim 24. Claim 24 recites the limitations "said sensor" and "said vibratory actuator" in lines 20-21. There is insufficient antecedent basis for the limitations in the claim.

Re: claims 2-7, 15-21, 25, and 26 are indefinite due to their dependency from claims 1, 14, and 24.

The list is not intended to be exhaustive.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6, 8-12, 14, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5899443 to Su.

Re: claims 1, 3, 5, 6, 8, 9, 11 and 14. Su shows and discloses in figures 2 and 4 a mount suitable for passive-active vibration isolation in associated with variable loading, the mount comprising a first member 14 for attaching to a first entity 24, a second member 16 for attaching to a second entity 26, at least one streamlined resilient member 18, 18e, and at least one structurally-positionally and functionally-directionally collocational combination of a sensor 22 and an actuator 20, each streamlined resilient element at least substantially consisting of an elastomeric material as disclosed in col. 10 line 40 and being interposed between the first member and the second member, each streamlined resilient element being characterized by low dynamic load transmissibility of vibration in approximately the same frequency bandwidth over a broad loading range, the at least one streamlined resilient element thereby being capable of effectuating overall passive reduction of the transmission of vibration from the first member to the second member as disclosed in lines 2-3 of the abstract, the overall passive reduction being of vibration in approximately the same first frequency

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bandwidth over a broad loading range of the first entity, each the collocational combination having a corresponding region of the second member, each the collocational combination being capable of generating a sensor signal and an actuator vibratory force, the sensor signal representative of the local vibration in the corresponding region and being representable as a control signal, the vibratory force being representative of the control signal, each the collocational combination thereby being capable of effectuating in the corresponding region, localized active reduction of the transmission of local vibration which has reached the second member subsequent to the effectuating of the overall passive reduction as disclosed in lines 2-3 of the abstract, the localized active reduction being of vibration in a non-first frequency bandwidth which differs from the first frequency bandwidth as disclose in col. 11 lines 23-24. Su also shows in figure 4 a feedback loop system including a PID-type controller 30, the PID-type controller generating at least one control signal which is a function of the at least one sensor signal.

Re: claims 2, 4, 10, 12, and 20. Su shows at least one of the streamlined resilient element including at least one truncation surface shown immediately below element 14, each truncation surface adjoining one of the first member and the second member.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7, 13, 15, 16, 18, 19, and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su.

Re: claims 15, 16, 18, and 19. In *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) the court held that the configuration of an object was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed object was significant. Since Applicant fails to point out the criticality of the various claimed resilient element shapes, it is maintained that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient element to have been spherical, prolate spherical, torus, or any appropriate shape as determined by routine experimentation in order to provide a means of effecting a desired amount of passive vibration isolation.

Re: claims 7, 13, and 21, 22, and 24. Su shows and discloses in figures 2 and 4 a method for reducing transmission of vibration of a first entity 24 to a second entity 26, the method comprising: providing a spring assembly 18 which includes at least one streamlined resilient member 18, 18e, an upper securement member 14 and a lower securement member 16, the at least one streamlined resilient member being essentially elastomeric and being for passively reducing the transmission of vibration existing in at least a plurality of frequencies falling within a generally constant bandwidth in relation to a range of loading imposed upon the at least one streamlined resilient element by at least one of the first entity and the second entity, the range being between a minimum

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degree of loading and a maximum degree of loading, each streamlined resilient element being shaped so as to at least substantially describe one of a sphere, a prolate spheroid, a cylinder, a torus, and a torus segment, and engaging with the spring assembly a feedback loop system as shown in figure 4, the engaging including: establishing at least one collocation of a sensor 22 with a corresponding vibratory actuator 20 so that the sensor and the corresponding vibratory actuator are each coupled with the lower securement member at approximately the same location and so that the sensor senses and the corresponding vibratory actuator actuates in approximately the same direction and in approximately the same locality of the lower securement member, connecting each of the sensor and each of the vibratory actuator with a processor/controller 30 so that for each collocation the sensor generates a sensor signal representative of the vibration of the locality, the processor-controller generates a control signal representative of the sensor signal and the vibratory actuator generates a vibratory force representative of the control signal and providing power 34,36 for the feedback loop system, and mounting the first entity with respect to the second entity the mounting including fastening the first entity to the upper securement and fastening the second entity with respect to the lower securement member, wherein in series the spring assembly effects passive reduction of the vibration at the first plurality of frequencies then the feedback loop system effects active reduction of the vibration at a second plurality of frequencies, and wherein the at least one frequency among the second plurality of frequencies is not among the first plurality of frequencies as disclosed in col. 11 lines 22-24. Examiner takes Official Notice the fact that the

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range between a minimum and maximum degree of loading in a vibration isolation system is a parameter that would be determined by routine experimentation by one of ordinary skill in the vibration isolation art in order based on the particular application in which the vibration isolation apparatus would be utilized. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the minimum to maximum range of degree of loading of the vibration isolation apparatus of Su to have included a maximum degree of loading being no less than about ten times the minimum degree of loading (or any other maximum amount as determined by routine experimentation depending on the application) in order to provide a means of enabling vibration isolation between a first and a second entity under both mild and harsh vibration conditions.

Re: claims 23, 25, and 26. Su shows at least one of the streamlined resilient element including at least one truncation surface shown immediately below element 14, each truncation surface adjoining one of the first member and the second member.

Double Patenting

9. Claims 14, 22, and 24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 12, and 18 of U.S. Patent No. 5899443 to Su. Although the conflicting claims are not identical, they are not patentably distinct from each other because Su '443 claims the invention substantially as set forth above, but does not include the limitation of the spring assembly including at least one streamlined resilient element and does not disclose the claimed minimum to maximum range of degree of loading.

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In *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) the court held that the configuration of an object was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed object was significant. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient element of Su to have been a streamlined shape including: spherical, prolate spherical, torus, or any appropriate shape as determined by routine experimentation in order to provide a means of effecting a desired amount of passive vibration isolation.

Examiner takes Official Notice the fact that the range between a minimum and maximum degree of loading in a vibration isolation system is a parameter that would be determined by routine experimentation by one of ordinary skill in the vibration isolation art in order based on the particular application in which the vibration isolation apparatus would be utilized. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the minimum to maximum range of degree of loading of the vibration isolation apparatus of Su to have included a maximum degree of loading being no less than about ten times the minimum degree of loading (or any other maximum amount as determined by routine experimentation depending on the application) in order to provide a means of enabling vibration isolation between a first and a second entity under both mild and harsh vibration conditions.

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Conclusion

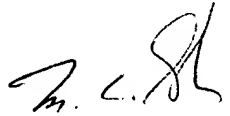
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 3606233 to Scharon et al., 5133527 to Chen et al., 5251863 to Gossman et al., 5374025 to Whelpley et al., 5116029 to Gennesseaux, 6059274 to Owen et al., 6378672 to Wakui, 5291967 to Aoki, and 5738343 to Nakajima et al. teach similar passive-active vibration isolation mounts.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 2/8/03
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February 8, 2003


2/10/2003
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310